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## (54) Title: METAL INTERCONNECT SYSTEM AND METHOD FOR DIRECT DIE ATTACHMENT

Semiconductor Die with Solderable Metal System Allowing Direct Surface Mounting to Printed Circuit Boards

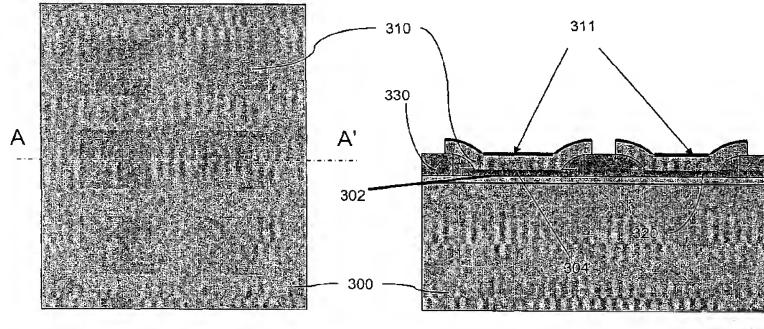


Figure 3. Die with Solderable Metal Contacts for Direct Printed Circuit Board Mounting

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(57) Abstract: Provided herein is an exemplary embodiment of a semiconductor chip for directly connecting to a carrier. The chip includes a metal layer applied to a top surface of the chip; a passivation layer applied over the metal layer such that portions of the passivation layer is selectively removed to create one or more openings ("bond pads") exposing portions of the metal layer and one or more solderable metal contact regions formed on each of the one or more openings. The solderable metal contact regions electrically connect to the carrier when the chip is positioned face down on the carrier, supplied with a thin layer of solder and heated.



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